

Amendments to the Claims:

The listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

- 5 1 (currently amended): A display controller for driving a monitor comprising:
a graphics chip for outputting a display data; and
a converter for converting the display data into a display driving voltage, the converter
comprising:
a current mirror circuit for generating an output current according to a reference
10 current and the display data, the output current and the reference current
corresponding to a mirror ratio, the output current being delivered to the
monitor for generating the display driving voltage, the current mirror circuit
comprising:
a first current route for delivering the reference current; and
15 a plurality of second current routes electrically connected to the first current
route for delivering a plurality of mirror currents to an output port of the
converter to form the output current, wherein the plurality of mirror
currents ~~each have a different magnitude~~ have magnitudes differing from
each other by a factor of two, and the plurality of mirror currents add
20 together to form the output current; and
a voltage calibration circuit for modifying the mirror ratio according to the display
driving voltage and a ~~predetermined~~ reference display driving voltage and
adjusting the output current to drive the display driving voltage to approach the
~~predetermined~~ reference display driving voltage.
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2 (cancelled).

3 (currently amended): The display controller of claim 1 wherein the voltage
calibration circuit comprises:
30 a mirror ratio controller for controlling the mirror ratio;

a comparator for comparing the display driving voltage with the ~~predetermined~~
reference display driving voltage to generate a comparison result; and
a state machine for generating a setting value according to the comparison result and
outputting the setting value to the mirror ratio controller to adjust the mirror
5 ratio.

4 (currently amended): The display controller of claim 3 wherein the setting value is
used for lowering the mirror ratio if the display driving voltage is greater than the
~~predetermined~~ reference display driving voltage, and the setting value is used for
10 raising the mirror ratio if the display driving voltage is not greater than the
~~predetermined~~ reference display driving voltage.

5 (original): The display controller of claim 3 wherein the mirror ratio controller
comprises a plurality of mirror ratio setting units, and the mirror ratio controller
15 activates a predetermined amount of mirror ratio setting units according to the setting
value for adjusting the mirror ratio.

6 (withdrawn): The display controller of claim 5 wherein each of the mirror ratio
setting units corresponds to an identical adjustment magnitude when adjusting the
20 mirror ratio.

7 (original): The display controller of claim 5 wherein the mirror ratio setting units
correspond to a plurality of adjustment magnitudes when adjusting the mirror ratio.

25 8 (original): The display controller of claim 5 wherein each of the mirror ratio setting
units is electrically connected to the first current route through a current mirror means.

9 (original): The display controller of claim 3 wherein the state machine enters a first
operating state for adjusting the setting value to drive the mirror ratio controller to
30 lower the mirror ratio if the comparison result corresponds to a first logic level, and

the state machine enters a second operating state for adjusting the setting value to drive the mirror ratio controller to raise the mirror ratio if the comparison result corresponds to a second logic level.

- 5 10 (original): The display controller of claim 9 wherein the state machine will leave the first operating state and enter a third operating state for holding the setting value if the state machine stays at the first operating state, and the comparison result corresponds to the second logic level, and the state machine will leave the second operating state and enter the third operating state for holding the setting value if the
10 state machine stays at the second operating state, and the comparison result corresponds to the first logic level.

11 (currently amended): A method for calibrating a display driving voltage comprising:

- 15 (a) converting a display data into an output current according to a reference current, the output current and the reference current corresponding to a mirror ratio, the output current being used for generating the display driving voltage, wherein the output current is generated from utilizing a current mirror means for delivering the reference current via a first current route and forming the output current through a
20 plurality of mirror currents delivered via a plurality of second current routes, wherein the plurality of mirror currents ~~each have a different magnitude~~ have magnitudes differing from each other by a factor of two, and the plurality of mirror currents add together to form the output current; ~~and~~
- 25 (b) comparing the display driving voltage and a ~~predetermined~~ reference display driving voltage for modifying the mirror ratio and adjusting the output current to drive the display driving voltage to approach the ~~predetermined~~ reference display driving voltage; and
- (c) driving a monitor to display images according to the display driving voltage.

- 30 12 (cancelled).

13 (currently amended): The method of claim 11 wherein step (b) further comprises:
comparing the display driving voltage and a ~~predetermined~~ reference display driving
voltage for generating a comparison result; and
5 generating a setting value according to the comparison result for adjusting the mirror
ratio.

14 (currently amended): The method of claim 13 further comprising utilizing the
setting value to lower the mirror ratio if the display driving voltage is greater than the
10 ~~predetermined~~ reference display driving voltage, and utilizing the setting value to raise
the mirror ratio if the display driving voltage is not greater than the ~~predetermined~~
reference display driving voltage.

15 (currently amended): The method of claim 13 further comprising enabling a first
15 operating state for lowering the mirror ratio when the display driving voltage is
greater than the ~~predetermined~~ reference display driving voltage, and the comparison
result corresponds to a first logic level, and enabling a second operating state for
raising the mirror ratio when the display driving voltage is not greater than the
~~predetermined~~ reference display driving voltage, and the comparison result
20 corresponds to a second logic level.

16 (original): The method of claim 15 further comprising disabling the first operating
state and enabling a third operating state for holding the setting value when the first
operating state is currently enabled, and the comparison result corresponds to the
25 second logic level, and disabling the second operating state and enabling the third
operating state for holding the setting value when the second operating state is
currently enabled, and the comparison result corresponds to the first logic level.

17-18 (cancelled)

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- 19 (new): The display controller of claim 1, wherein the converter further comprises a switch module coupled to the plurality of second current routes for controlling the plurality of second current routes respectively to form the output current.
- 5 20 (new): The method of claim 11, wherein step (a) further comprises switching the plurality of second currents routes on respectively to form the output current.